Department of Pesticide Regulation

Paul E. Helliker
Director

Gray Davis
Governor

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June 20, 2002

TO: Interested Parties

SUBJECT: EVALUATION OF METHYL BROMIDE AIR MONITORING DATA

The Department of Pesticide Regulation (DPR) continues to conduct and analyze ambient air monitoring to determine the effectiveness of its restrictions on the use of methyl bromide to fumigate agricultural fields. As part of this effort, DPR requested the Air Resources Board (ARB) and the Alliance of the Methyl Bromide Industry (AMBI) to conduct monitoring in 2001 in five counties where methyl bromide is extensively used.

DPR has completed a preliminary evaluation of the 2001 monitoring data (enclosed). The data and evaluation substantially agree with the results from 2000. However, the evaluation also revealed some technical issues worthy of further consideration before DPR finalizes its evaluation.

DPR is hosting a technical workshop from 9:00 a.m. to 2:00 p.m. on June 28, 2002 in the Coastal Hearing Room of the Joe Serna, Jr. California Environmental Protection Agency Building. The purpose is to discuss methyl bromide air monitoring conducted by the AMBI and the ARB during 2001. During the workshop, ARB staff and AMBI representatives will present an overview of their respective monitoring data, and DPR staff will discuss its evaluation. There are a number of important technical issues that DPR proposes to address, and we would welcome feedback from audience members on these questions.

Monitoring Issues

There were several instances when background concentrations tested positive. What are possible causes? Should the background monitoring protocol be changed?

Spike recoveries ranged from 120 percent to 150 percent. How might these high recoveries be resolved in future monitoring? Should DPR adjust air concentrations to account for the high recoveries?

ARB uses 25 percent difference between starting and ending flow as the criterion for flow deviation. AMBI uses 50 percent. Should the same criterion be used? What should the criterion be? Are there any suggestions for changing the methodology to decrease the number of flow deviations?

All of AMBI's trip blanks were positive. AMBI considers the potential contamination low because all concentrations were less than 0.015 parts per billion (ppb), or five times the detection limit (one trip blank had 0.034 ppb). Is this the appropriate criterion?

DPR/ARB's collocated samples in Ventura were consistently higher than AMBI. In Santa Barbara, DPR/ARB's collocated samples were consistently lower than AMBI. What are the possible causes of this inconsistency?

Are there any suggestions for future monitoring, such as changing monitoring sites or time periods?

Data Analysis Issues

Is DPR's approach to correlate air concentrations with pesticide use appropriate? Should all data be combined for a single regression or grouped in some way, such as by area or year? Should DPR use this analysis to estimate air concentrations in areas and time periods not monitored? Can this approach be used for other pesticides?

AMBI suggests aggregating the air concentration data from all monitoring sites in a region to do the correlation. Is this a better approach?

DPR found higher correlation when various weighting factors were used to account for distance of use from monitoring site, wind direction, and date of application. However, the choice of weighting factors was based on scientific judgment. Should DPR use these subjective weighting factors? Is there an objective method for determining the appropriate weighting factors? Are there other factors that should be accounted for?

If you have any questions or comments, please contact Mr. Randy Segawa, of my staff, at (916) 324-4137 or <rsegawa@cdpr.ca.gov>.

Sincerely,

Original signed by

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cc: Mr. Randy Segawa, Senior Environmental Research Scientist